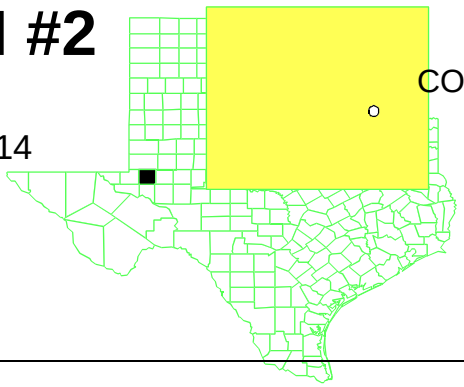
ODESSA CHROMIUM #2

TEXAS

EPA ID# TXD980697114



EPA REGION 6

CONGRESSIONAL DISTRICT 19

Ector County

Other Names:
Andrews Highway

Updated: 7/17/97

Site Description

Location: The site is located in the vicinity of Andrews Highway between West 52nd St. and West 57th St., Odessa, Ector County, Texas.

Population: Approximately 3500 persons live outside the city limits within one mile of the site.

Setting: Nearest residence is within the site.
Nearest drinking water well is on-site.
Approximately 400 water wells are within 1/2-mile of the site.
Several municipal supply wells are within 1/2-mile of the site.
Sources of contamination are within a 15-acre industrial area outside of Odessa.
The estimated surface projection of ground water plumes is more than 40 acres.

Hydrology: Trinity-Edwards aquifer is sandstone and conglomerate rock overlaid by 20 ft. to 60ft. of soil and caliche (hard-pan).
The aquifer is 60ft. to 100 ft. thick, and underlaid by redbed clays.
The depth to ground water at the site is 75 ft.

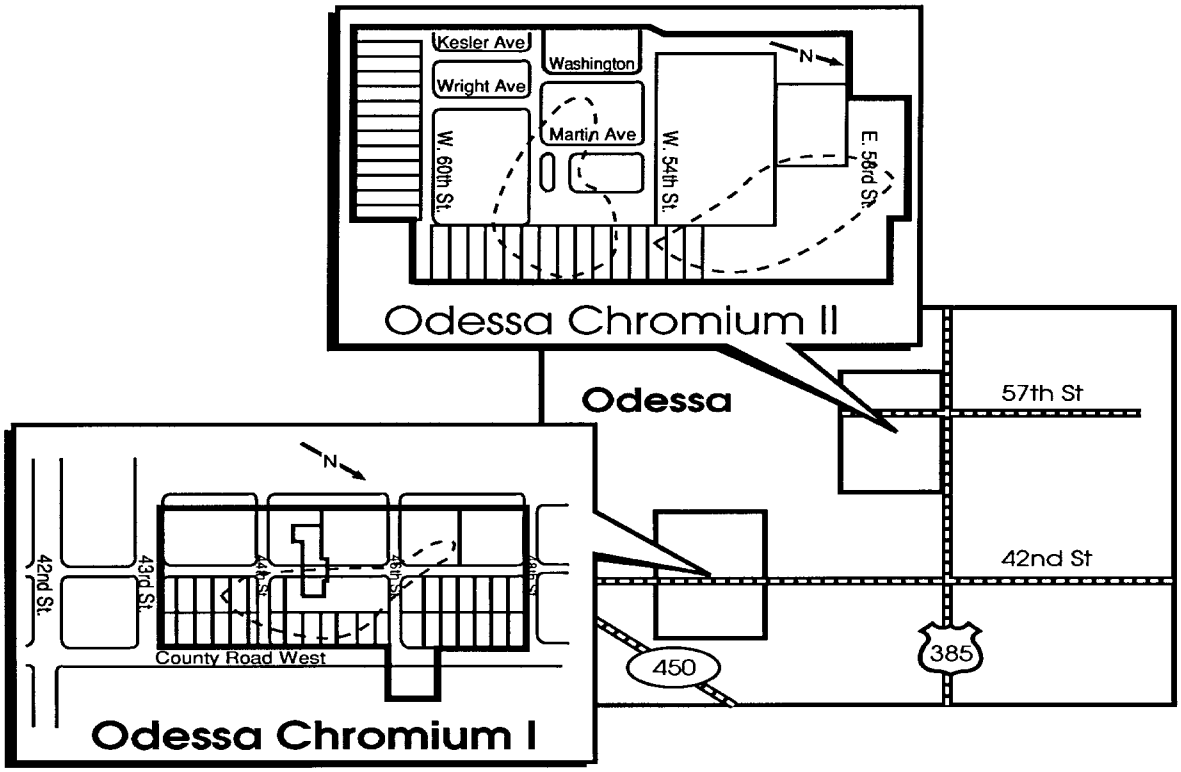
Wastes and Volumes

The principal pollutant at the Odessa II site is hexavalent chromium, ranging to 9.9 ppm in the ground water.
The estimated volume of contaminated ground water in the aquifer was approximated at 200 million gallons.

Site Assessment and Ranking

NPL LISTING HISTORY
Site HRS Score: 42.24
Proposed Date: 10/15/84
Final Date: 5/20/86
NPL Update: No. 2

Site Map and Diagram



The Record of Decision

Signed: September 8, 1986 (Alternate Water Supply)
Signed: March 18, 1988 (Source Control/Ground Water)

The Remediation Process

Site History:

Contamination resulted from chrome plating operations from the late 1960s - 1970s.

Cleanup at the site was divided into three phases, or operable units: development of an alternate water supply (AWS) for area residents, and cleanup of the contaminated ground water (Source Control/Ground Water). The latter phase deals with operable units two and three, a north plume of contamination under an enforcement scenario with potentially responsible parties (PRPs) funding the cleanup, and a south plume under a "Fund-lead" scenario (cost-recovery only).

The Remedial Investigations and Feasibility Studies (RI/FS) for the AWS and remediation phases were completed in September 1986 (AWS) and March 1988 (Source/Ground Water).

The RI/FS and South Plume activities were conducted by the Texas Natural Resource Commission (TNRCC).

Health Considerations:

More than a 40-acre portion of the sole source aquifer (Trinity) showed contamination.
14 out of 318 wells sampled show total chromium at or above the drinking water standard which was .05 milligrams/liter (mg/l).
4 of 8 monitoring wells within the zone, and 3 of 12 monitoring wells within the Trinity Aquifer contained chromium at or above 0.05 mg/l.
Affected wells are outside of city water supply service area.

Alternate Water Supply Phase (AWS):

For this phase, the Record of Decision (ROD) calls for an extension of the existing municipal water supply system to those persons residing within the impacted area.

Source Control/Ground Water:

This ROD selected extraction and electrochemical treatment of contaminated ground water from the Trinity Aquifer, for the South Plume.
The ROD was changed, through an ESD, to an ION exchange treatment for the North Plume.

Other Remedies Considered	Reason Not Chosen
----------Alternate Water Supply----------	
1. "No Action"	**Did not meet remedial objectives; not protective of human health and the environment**
2. Development of surface water supply	**High monthly water bills for users, Water Association must be formed**
3. Removal via treatment	**Stringent operational review required to insure contaminants are properly removed**
4. Development of new well field	**Long term supply of water questionable**
----------Source Control/Ground Water----------	
1. "No Action"	**Did not meet remedial objectives; not protective of human health or the environment**
2. Containment Wall	**Difficult to implement; high cost to uses**
3. Ion Exchange	**System will generate a hazardous sludge**
4. Chemical Treatment	**Treatment may increase TDS of ground water**

The action level for chromium contamination in ground water was revised from 0.05 mg/l to 0.10 mg/l to reflect the new drinking water standards promulgated in the Federal Register No. 3528 on January 30, 1991.

Community Involvement

Community Involvement Plan: Developed 6/85, revised 9/89, and again in 12/92.
Open houses and workshops: 4/86, 12/87, 9/89, 1/91
Proposed Plan Fact Sheet and Public Meeting: 7/86 (AWS), 1/88 (Source/Ground Water)
ROD Fact Sheet: 9/86 (AWS), 3/88 (Source/Ground Water)
Milestone Fact Sheets: 1/85, 8/85, 12/87, 3/90, 9/90 (TWC), 12/90 (TWC), 1/91 (TWC), 8/94 (TNRCC), Explanation of Significant Differences Notice 10/94.
Citizens on mailing list: 33
Constituency Interest: Low to moderate concerns regarding site after alternate water supply was brought on-line.
Site Repository: Ector County Library, 321 West Fifth Street, Odessa, TX 79761

Technical Assistance Grant

Availability Notice: 4/11/89
Letters of Intent Received: 1) Gerald Fugit, Chrom Sites, Inc. - 12/20/90
Draft Application Received: 4/10/91
Grant Award: None - application denied
Current Status: Draft application submitted did not contain a work plan/budget, and further discussions with Mr. Fugit revealed that no citizens group existed, and that he desired to use the grant proceeds to enhance his business opportunities, a prohibited use of the grant.

Fiscal and Program Management

Remedial Project Manager (EPA): Ernest Franke, 214-665-8521, Mail Code: 6SF-AT or
State Contact: (TNRCC) Lel Medford 512/239-2440, Mail Code 144
Community Involvement Coordinator: Olivia Balandrán, 214-665-6584, Mail Code: 6SF-P
Attorney (EPA): Anne Foster, 214-665-2169, Mail Code: 6SF-DL
State Coordinator (EPA): Shirley Workman, 214-665-8522, Mail Code: 6SF-AT
Engineering: South Plume: IT Corp./Howell Eng.
Prime Contractor/s: Panhandle Construction Co. (AWS)
Waste Abatement Technology (Pump and Treat GW)
Engineering: North Plume: ERM Southwest
Bureau of Reclamation (Oversight)

Cost Recovery: State (TNRCC) and PRP-lead (Enforcement)

PRPs Identified: 4
Viable PRP: 1
No settlement was negotiated after the completion of RI/FS.
A Consent Decree was signed in June 1990 with the PRPs to conduct the Remedial Design and Remedial Action (RD/RA) for the north plume at the site.
Cost recovery will be evaluated following the completion of RD/RA for the south plume.

Present Status and Issues

The residents around the Odessa Chromium #2 site are now provided with safe drinking water, eliminating possible health threats while ground water cleanup activities continue to reduce contamination at the site.

The Remedial Design for the North Plume included both electrochemical treatment and ion exchange with resin recycling (thus addressing waste sludge concerns). The Remedial Action is proceeding for ion exchange.

An Explanation of Significant Differences (ESD) for the change from electrochemical treatment to ion exchange for the North Plume was signed June 28, 1994. The public was notified in October of 1994.

The ground water pump and treatment systems are operating for the south plume and the north plume. Most wells at the North Plume have attained the cleanup standard and monitoring is commencing to determine when all recovery wells can be shut off.

Benefits

A safe alternate drinking water supply is being provided for approximately 3,500 people living in the site area.

The remedy, once complete, will have treated millions of gallons of contaminated ground water from the only source aquifer in the Odessa area.